302 For festive occasions, some women bear paintings on their faces, white or ocher dots above the bridge of the nose, under the [517] cheeks, and on their chins. These paintings have only an aesthetic nature, or so it seems.

304 751 All Tuareg, men and women, have two or three small linear scars on their foreheads and temples, and the indigo from their clothing which is often inlaid there gives them the appearance of tattoos. They are incisions made for medico-magic reasons when [855] the children are very young to protect them from headaches and convulsions.

[856] It also seems that this custom contributes to make them strong and making them walk very early. (1)

1. De Foucauld, Textes en prose /Prose Texts/, p. 64.

757 Medicine and surgery. -- If we now turn our attention to medicine and surgery among the Tuareg, we shall observe that their knowledge is not very extensive and has nothing singular about it.

753 In their minds the Tuareg classify sickness in two categories: those which are the result of an external action, visible and determinable, and those whose origin cannot be explained by any causal link. The former are treated with appropriate medical treatments, the latter by magic procedures.

757 The medical procedures, which belong rather to surgery, are clearly empirical. A few of them serve for a quantity of ills. They chiefly include bleeding and applying heat. In bleeding, the operator relieves congestion in the diseased part; in applying heat, he limits the pain, at the same time relieving congestion.

278 [277] The Ihaggaren have a whole stock of drugs which they borrowed from the Sudanese. These are roots, plants, and seeds which grow in the Sudan and in which the Tuareg have a great deal

278 of trust. Every time they take a caravan down south, they purchase [439] many drugs, either for their personal use or to resell in their country or at In-Salah.

164 There are not many diseases in the Ahaggar. The country is relatively healthy because of its very dry climate /261/ and the bracing action of the sun, which at the same time destroys microbic germs. Moreover, this is very fortunate, for with the small amount of hygiene practiced by the Tuareg it would be impossible to fight disease. It may also be true that this absence of hygiene stems from the fact that the Tuareg have not had to see the necessity of it.

[165 731] The Ahaggar people die of old age or of war wounds. Of course, there are sometimes epidemics capable of doing damage, but they are rare because of the isolation of the camps. The great distances which separate one from the other are a natural defense against mass contagions. These epidemics always come through the medium [361] of the caravaneers or the people who return from the Sudan, where they have stayed among sedentary people. We may mention smallpox, very common in the Sudan, which sometimes works great ravages in the tribes. Typhus, spread by lice, may decimate a whole tribe in a few days, and it is not uncommon among the Tuareg. But these two diseases are the exception when they are reported in [751] the Ahaggar. When a man returning from the Sudan is stricken with one of them, his case is reported by messengers long before his arrival, and the sick man is systematically isolated.

●753 The Tuareg under the circumstances recognize the state of contagion, but they do not see the causes of disease. According to [771] them, it is caused by the action of bad genii. As good Moslems, they pretend not to believe in these genii, but in reality most of the talismans they wear on their persons are intended to protect them from these. To obtain them, they go to the marabouts or to men [756] with a reputation for their knowledge of the occult sciences; these sorcerers are known as amekelléou.

7:Nicolaisen E-5 (1951-1962) 1963 M525 Tuareg M525
Fulani M511

The most dangerous African cattle disease is the rinderpest. It is known to have entered Egypt in the year 1884 from the regions around the Black Sea, and about 1890, or somewhat later, it came to Eastern Africa and to the Sudan. Rinderpest is nowadays widely found in Africa but it is rare or unknown in Northern Tuareg countries. Rinderpest is apparently very rare in the Ayr Massif and it occurs mainly south of the Massif in savannah country. The Tuareg have no remedy against this disease. It is stated by St. Croix that the Fulani of Northern Nigeria once deliberately exposed their cattle to mild rinderpest to make them immune from this disease in its more severe and dangerous form. However, this method did not work and the Fulani gave up further experiments of this kind. It is also mentioned by St. Croix that the Fulani practise a kind of vaccination against cattle pleuro-pneumonia and that this is done as follows:— A piece of infected lung is put into milk for two to three days and thereupon placed into a small opening cut under the nose-skin of the animal. The method is claimed to be effective (St. Croix 1944, p. 24 f.). Vaccination methods are also known to some of the Southern Tuareg, e.g. the *Iwillemmeden*. These people vaccinate human beings against small-pox by inserting the pus of this disease into wounds cut with a knife (Aymard 1911, p. 108), and they also vaccinate their cattle against cattle pleuro-pneumonia ("peripneumonie bovine"). They do this in much the same way as described above for the Fulani:— An infected piece of lung is placed in sour milk or in the soil for a few days, and is thereupon inserted under the skin of the forehead. Nicolas describes the method as dangerous because the infection attacks the whole forehead and also the nose-bone (Nicolas 1950a, p. 133), but two veterinary surgeons who practised among the *Iwillemmeden* of Tawa told me that they considered this kind of vaccination effective. The method is unknown among the Ayr Tuareg of the Massif where this contagious lung-disease is unknown or very rare.

I have no great knowledge of the contagious diseases in the Tuareg groups I have studied, but such diseases seem to occur comparatively rarely, and there is no veterinary surgeon attached to the French administration of Northern Tuareg countries. There is one veterinary surgeon in Agadez, but his most important field of work lies outside of the mountain massif to the south.

Among the *Kel Ferwan* Tuareg of Southern Ayr I have been told about two contagious diseases which, when they occur, may give rise to very heavy losses. One of these diseases is known to the Tuareg as *changa*. It attacks only cows, which die very quickly, but if cattle suffering from the disease are ritually killed their meat is nevertheless considered edible. One Tuareg told me that some years ago about thirty cattle of his camp died in one day from an attack of *changa*.

The other contagious disease I have recorded from Southern Ayr is called *tandert*. It attacks sheep and goats, and I collected the following notes about it:— The blood penetrates the animal's flesh which becomes quite red. If sheep or goats suffer from *tandert* and are ritually killed for eating, very great care must be taken in the preparation of the meat. It must be boiled until it contains no blood, and must not be eaten until it is cold and dry. It is said that if these precautions are not taken the people who eat meat from animals suffering from *tandert* will themselves become attacked by the disease, with the result that blood and pus may penetrate the skin at any part of the body. They say that a man who has eaten unboiled meat of an animal suffering from this disease with consequent infection is treated in the following way:— A species of ant more venomous than the normal small

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

232
233

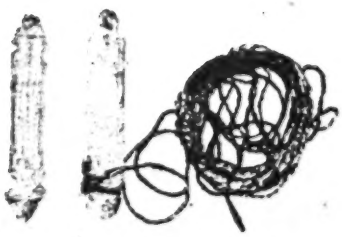

Fig. 92. Wooden splints (*tafasast*, pl. *tifesasin*) applied to broken legs of sheep and goats by means of a long thin cord of goat's hair. Ahaggar, the *Dag Rali* tribe. Dimensions of wooden splints: about 0.12 m. (F.M. 282).

232 (2) Operation with a knife. Such operations are often very simple. Thus I have once seen sheep with swollen throats and ears which were scratched with a knife to let out some water-like pus, but I do not know the name of this disease. The knife is used for many different operations some of which have been mentioned above. It is also used for bleeding which plays a great part in Tuareg veterinary practise. Bleeding is applied to humans and to domestic animals as a treatment for various diseases. The Tuareg may bleed individuals and animals bitten by snakes or stung by scorpions, but bleeding is used for many different diseases, as the Tuareg believe that these can be removed away with bad blood which is considered their cause. Bleeding is practised with camels. Thus in summer camels are frequently bled because they get slow and tired owing to *azni* (*ahni*), that is congestion due to heat-apoplexy, and a she-camel will normally be bled two or three hours after it has brought forth a calf. I frequently attended the bleeding of camels among the Ayr Tuareg where the method is as follows:— The camel is forced to stand upright while its head is turned downwards by a man (or a woman) who grasps the head firmly at the upper lip with one hand and pulls at a rope fixed to the animal's lower jaw with the other. A rope is tied around the camel's neck close to its chest so that the neck vein can contain as much blood as possible. The neck vein in this way will swell with blood particularly close to the animal's head at a place known to the Tuareg as *abayor*. A slice about two centimetres long is cut in this place with a small sharp knife, and immediately blood will flow from the neck vein in a thin but powerful squirt. Shortly after bleeding has started the rope tied around the animal's neck is loosened, but blood is allowed to flow for several minutes, and I believe that at least two or three litres of blood is tapped. When the operation is to end the animal's head is raised, the skin around the wound is pressed together with two fingers, and bleeding immediately ceases. Once blood has started to flow from the camel it does not protest at the operation which is illustrated by the photograph Fig. 93. When a camel has been bled it will normally rest for a few hours before it starts eating again. When Tuareg get lost in the desert and lack water, they bleed their camels and

7:Nicolaisen E-5 (1951-1962) 1963 MS25 Tuareg MS25

172 The so-called *Tomb of Ti-n-Hinan*, an enormous fort at Abalessa in Ahaggar dating back to the 4th century A.D., has dry walls (cf. Reygasse 1950, p. 88 ff.; Capot-Rey 1953a, p. 95).

*342 Any solid house of the above mentioned types is known to the Tuareg as *tarahant* (Ahaggar) or
[183] *tarajant* (Ayr). Pastoral Tuareg do not like to live in houses, and some of them believe that they may contract an illness if they stay too long in a house (cf. Capot-Rey 1953a, p. 221).

*342 Capot-Rey thinks that mud houses with terraces were introduced into the Sudan with the Arabs
174 (Capot-Rey 1953a, p. 231 f.), while Engeström and Le Moal hold them to be pre-Islamic (Engeström 1959, p.64–69; Le Moal 1960, p. 202). I believe that houses built of sun-dried bricks are post-Islamic in Tuareg countries. This agrees with Nicolas' statement that there are two Hausa words which are generally used for sun-dried bricks, and both words are derived from Arabic (Nicolas 1938, p. 67). Furthermore, houses constructed in this way are not very common in the Southern Sahara except in towns and cities. In Ahaggar there were apparently no houses built of sun-dried bricks until the beginning of the French occupation when the immigration of Tidikelt Arabs increased.

Houses built of balls of mud piled upon each other before sun-drying are no doubt pre-Islamic (cf. Nicolas 1938, p. 67), and we know that this is also true of houses built of stones and mud. They are still widely found in the Sahara and constituted an important dwelling type in ancient towns and cities including Ghana. Capot-Rey thinks that houses built predominantly of stone were introduced to the Sahara and the Sudan by Berber tribes of the north, and that these houses have to some extent displaced the straw-huts of the Negroes (Capot-Rey 1953a, p. 233). A connection between the stone houses of the Sahara and the immigration of Berbers is also claimed by Rodd, who thinks that the oldest type of solid houses in Ayr (the "A-type" according to Rodd's division) was built of stone and came to Ayr with the *Itésen* Tuareg (Rodd 1926a, p. 244 ff.). I myself was frequently told by Tuareg of Ayr that originally there was a very close association between the *Itésen* Tuareg and stone houses, and various ruins of houses built of stone or predominantly of stone are ascribed to the *Itésen*. Ruins
[173] at Tegidda-n-tagayt of small rectangular houses and a ruin at the same place of a large fort or walled enclosure, measuring about 35 × 35 metres, are said by modern Tuareg to derive from the ancient *Itésen* Tuareg who according to native tradition were among the early Tuareg immigrants (cf. p. 412).

*342 It seems that houses built predominantly of stone are of very great age in the northern parts of the
172 Sahara, including Tasilé-n-Ajjer. At Éherir, situated in the latter mountain massif, there are house-ruins with walls of stones kept together by a thin layer of clay or similar material. It has been suggested that these constructions may reach back to antiquity and be due to Roman influence (cf. Lhote 1955a, p. 87).

*342 Though solid houses built of stone seem to be very ancient in Tasilé-n-Ajjer, it would seem that
172 all types of solid houses were introduced into Ahaggar in late pre-Islamic times. For the oldest houses
174 ruins of Ahaggar, apart from the *Tomb of Ti-n-Hinan*, show walls of stones united with mud at Silef, and seem to derive from Arab marabuts who lived there during the reign of the *Imenan* (cf. p. 393).

*342 There are also house-ruins, probably of the same age, at Tit (Lhote 1955a, p. 87, 286). Apart from these
174 ruins the Tuareg of Ahaggar say there were no solid houses in Ahaggar until about a hundred years